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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,807	03/09/2001	Tae-Young Kil	P56258	1458

7590 05/19/2004

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EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2686

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DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/801,807

Applicant(s)

KIL, TAE-YOUNG

Examiner

Willie J. Daniel, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 25-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Drawings*

1. The objections to Figs. 1-3 are withdrawn, as the proposed drawing corrections are approved.

### *Claim Objections*

2. **Claim 31** is objected to because of the following informalities:

**Claim 31** does not include a "." at the end of the claim.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 25-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **McClelland et al.** (hereinafter **McClelland**) (**US 6,330,438 B1**) in view of **Khan et al.** (hereinafter **Khan**) (**US 5,926,760**) and **Hong** (**US 6,298,241**).

Regarding **Claim 25**, **McClelland** teaches of a method of generating an alarm on an occurrence of a cell secession of a mobile station (62) located within a common cell area of a cellular telephone system which reads on the claimed "public and private radio mobile communication system" (see Figs. 2 and 4), the method comprising:

receiving power-related information transmitted from the mobile station (62) (see col. 3, lines 38-41; col. 4, lines 4-12; Figs. 3, 4, and 5 [step 68]), where the mobile station provides a power level of the link which is transmitted to the base station for handoff determination;

determining whether the mobile station (62) is registered in the cell site which reads on the claimed "private wireless communication service system" upon a determination that a power level of the mobile station is less than a threshold which reads on the claimed "predetermined reference power level" (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]), where the mobile changes from being associated (registered) with cell site #1 to cell site #2;

transmitting information for generating an alarm on an occurrence of a cell secession to the corresponding mobile station upon a determination that the mobile station is registered in

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the private radio mobile communication system (cell site of the cellular telephone network) (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from the associated cell in which an alarm will be generated; and

transmitting no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the cell site of the cellular telephone network (private radio mobile communication system) (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell site in which an alarm will be provided with public site of the area that of the communication system. The private system will not provide an alarm due to the mobile station not being registered with a private system.

McClelland fails to disclose registered in the private wireless communication system, detecting and comparing frame quality, and transmitting no cell secession alarm information when not registered in the private radio mobile communication system. However, the examiner maintains that registered in the private wireless communication system was well known in the art, as taught by Khan.

In the same field of endeavor, Khan teaches a communication system having a mobile station (10) being registered with a private base station (20) which reads on the claimed "radio mobile communication system" (see abstract; col. 1, lines 48-64; col. 3, lines 15-49; col. 4, lines 41-57; Fig. 1), where the mobile station is registered with the private base station for communicating within the public and private domain of the cellular switching system to allow public and/or private communication. When the mobile station is not registered with

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the private communication system, the mobile station will have communication with the public communication system in which transmitting of no cell secession alarm would be inherent.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland and Khan to have a cellular telephone network that has private radio communication service, in order to have a privately based radio communication system with registered mobile units that can make and receive calls.

The combination of McClelland and Khan fails to disclose detecting and comparing the frame quality. However, the examiner maintains that detecting and comparing the frame quality was well known in the art, as taught by Hong.

In the same field of endeavor, Hong teaches of detecting information about the frame quality from the received information (see col. 4, lines 38-59; Fig. 6a [s521]), where the mobile station provides power measurement to the base station with the power level and the frame error rate;

comparing the frame quality information with a power control parameter value of the system (col. 4, line 38 - col. 5, lines 6);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland, Khan, and Hong to have the received power from mobile unit based on received power from base station and frame error measurement, in order to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 26**, the combination of McClelland, Khan, and Hong discloses everything claimed, as applied above (see claim 25), in addition McClelland further teaches of the method as claimed in claim 25, wherein transmitting the cell secession alarm information to the mobile station comprises transmitting a predetermined tone control message over a forward traffic channel (see Fig. 2, ref. 28 and 32; hereinafter 28 will be used) (see col. 3, lines 9-27; col. 3, lines 64 - col. 4, lines 38; Figs. 2, 4, and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell in which an alarm tone is provided.

Regarding **Claim 27**, the combination of McClelland and Khan teaches of the power-related information including at least one of a handoff measurement message which reads on the claimed "power measurement report message" as to the received power level from the mobile station (62) (see McClelland - col. 3, lines 23-27; col. 3, line 38 - col. 4, line 16; Figs. 4 and 5), where the mobile station has the power measurement of the reverse link for determining of the handoff from one cell site to another cell cite. The combination of McClelland and Khan fails to teach having an erasure indicator bit. However, the examiner maintains that having an erasure indicator bit was well known in the art, as taught by Hong.

Hong further teaches of an erasure indicator bit as to an error detected field (see col. 4, lines 38-59; col. 5, lines 45-52; Fig. 6a), where the mobile transmits power information with the frame error rate by using a power measurement report message. The frames have an erasure indicator bit that is extracted to detect an error.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland, Khan, and Hong to have an

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erasure indicator bit, in order to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 28**, McClelland teaches of a method comprising:

receiving in a cell site (64) which reads on the claimed "base station" of a cellular telephone network which reads on the claimed "public and private radio mobile communication system" a power control parameter of a mobile station located within a common cell (1) area of the public and private radio mobile communication system from a cell site controller (64b) which reads on the claimed "base station controller" of the mobile communication system (see col. 2, lines 56-57; col. 3, lines 38-41; col. 3, line 63 - col. 4, line 12; Figs. 2-4 and 5 [step 68]), where the mobile station has the power measurement of the link for determining of handoff from one cell site to another cell cite;

receiving power-related information in the base station (64) (see col. 2, lines 56-57; col. 3, lines 38-41; col. 4, lines 4-12; Figs. 2-4, and 5 [step 68]), where the mobile station has the power measurement of the link for determining of handoff from one cell site to another cell cite;

determining when the determined power level of the mobile station (62) decreases below a predetermined reference power level indicating that the mobile station (62) has seceded from a selected cell of the mobile communication system (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell;

determining whether the mobile station (62) is registered in the cellular telephone network when the determined power level of the mobile station (62) is less than the



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predetermined reference power level (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]), where the mobile station is associated (registered) with cell site 2 in the network when the power falls below the threshold in cell site 1 which indicates a hand over of cell association in the network;

transmitting information for generating an alarm on an occurrence of a cell secession to the corresponding mobile station upon a determination that the mobile station is registered in the private radio mobile communication system (cell site of cellular telephone network) (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from the associated cell in which an alarm will be generated; and

transmitting no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the private radio mobile communication system (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell site in which an alarm will be provided with public site of the area that of the communication system. The private system will not provide an alarm due to the mobile station not being registered with a private system. McClelland fails to disclose having a public and private radio mobile communication system, registering in the private wireless communication system, transmitting no cell secession alarm, detecting frame quality, and comparing the frame error rate. However, the examiner maintains that having a public and private radio mobile communication system, registering in the private wireless communication system, and transmitting no cell secession alarm was well known in the art, as taught by Khan.

Khan further teaches of

having a public and private radio mobile communication system (see col. 3, lines 55-62), where the system has public and private cellular coverage area in which the private base station is located within the regular public cellular system. The public and private coverage is a common cell area for the mobile station to communicate within the range of the cell.

registering in the private wireless communication system (see abstract; col. 1, lines 48-64; col. 3, lines 15-49; col. 4, lines 41-57; Figs. 1 and 3), where the mobile station (10) is registered with the private base station (20) for communicating within the public and private domain of the cellular switching system to allow public and/or private communication.

When the mobile station is not registered with the private communication system, the mobile station will have communication with the public communication system in which the transmitting of no cell secession alarm would be inherent. When the mobile station is registered with the private base station the mobile station will be allowed to have private communication services of the private base station (see col. 4, lines 41-44; col. 5, line 20 'distinctive alerting').

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland and Khan to have a public and private radio mobile communication system and registering in the private wireless communication system, in order to have a privately based radio communication system with registered mobile units that can make and receive calls.

The combination of McClelland and Khan fails to disclose the receiving power level of base station, detecting frame quality, and comparing the frame error rate. However, the

examiner maintains that the receiving power level of base station, detecting frame quality, and comparing the frame error rate was well known in the art, as taught by Hong.

Hong further teaches of

the power-related information being related to a received power level of the base station at the mobile station and being generated and transmitted from the mobile station to the base station (see col. 4, lines 38-59; Fig. 6a), where the mobile provides a measurement of the received power level.

the base station detecting information as to a frame quality by determining a forward frame error rate from the received power-related information (see col. 4, lines 38-59; Fig. 6a [s521]), where the mobile station provides power measurement to the base station with the power level and the frame error rate;

comparing the determined forward frame error rate with a value corresponding to the power control parameter received from the corresponding base station controller to provide a determined power level of the mobile station (col. 4, line 38 - col. 5, lines 6; Fig. 6a), where forward frame error rate is compared to a predetermined threshold in which the base station controller would be inherent.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland, Khan, and Hong to have the receiving of the power level of base station, detecting frame quality, and comparing the frame error rate.

The advantage of combining the teachings of McClelland, Khan, and Hong is to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 29**, the combination of McClelland and Khan teaches of the power-related information including at least one of a handoff measurement message which reads on the claimed "power measurement report message" as to the received power level from the mobile station (62) (see McClelland - col. 3, lines 23-27; col. 3, line 38 - col. 4, line 16; Figs. 4 and 5), where the mobile station has the power measurement of the reverse link for determining of the handoff from one cell site to another cell cite. The combination of McClelland and Khan fails to teach having an erasure indicator bit. However, the examiner maintains that having an erasure indicator bit was well known in the art, as taught by Hong.

Hong further teaches of an erasure indicator bit as to an error detected field (see col. 4, lines 38-59; col. 5, lines 45-52; Fig. 6a), where the mobile transmits power information with the frame error rate by using a power measurement report message. The frames have an erasure indicator bit that is extracted to detect an error.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland, Khan, and Hong to have an erasure indicator bit, in order to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 30**, McClelland teaches of  
a base station (64) of the mobile communication system adapted to receive power-related information transmitted from a mobile station (62) located within a common cell area of a

cellular telephone network (public and private radio mobile communication system) (see col. 2, lines 56-57; col. 3, lines 38-41; col. 3, line 63 - col. 4, line 12; Figs. 2-4 and 5 [step 68]), where the mobile station has the power measurement of the link for determining of handoff from one cell site to another cell cite;

an analyzer adapted to analyze the received power-related information to determine when a power level of the mobile station (62) decreases below a predetermined reference power level indicating that the mobile station (62) has seceded from a selected cell (64) of the mobile to communication system (see col. 3, line 64 - col. 4, line 38; Figs. 2, 4, and. 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell in which the analyzer would be inherent;

the analyzer also adapted to determine whether the mobile station is registered in the cell site (private radio mobile communication system) upon a determination that a power level of the mobile station is less than a predetermined reference power level(see col. 3, line 64 - col. 4, line 38; Figs. 2, 4, and. 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell to another cell in which the analyzer would be inherent to have the mobile station associated or registered with a cell for communication;

a transmitter (64a) adapted to transmit cell secession alarm information for generating an is alarm on an occurrence of a cell secession to the corresponding mobile station (62) upon a determination that the mobile station (62) is registered in the cell site of cellular telephone network (private radio mobile communication system) (see col. 4, lines 24-38; Figs. 4 and 5

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[step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from the associated cell in which an alarm will be generated; and

the transmitter (64a) adapted to transmit no cell secession alarm information to the corresponding mobile station (62) upon a determination that the mobile station (62) is not registered in the private radio mobile communication system (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell site in which an alarm will be provided with public site of the area that of the communication system. The private system will not provide an alarm due to the mobile station not being registered with a private system. McClelland fails to disclose having a public and private radio mobile communication system, registering in the private wireless communication system, transmitting no cell secession alarm, and receiving power level of base station. However, the examiner maintains that having a public and private radio mobile communication system, registering in the private wireless communication system, and transmitting no cell secession alarm was well known in the art, as taught by Khan.

Khan further teaches of

having a public and private radio mobile communication system (see col. 3, lines 55-62), where the system has public and private cellular coverage area in which the private base station is located within the regular public cellular system. The public and private coverage is a common cell area for the mobile station to communicate within in the range of the cell.

registering in the private wireless communication system (see abstract; col. 1, lines 48-64; col. 3, lines 15-49; col. 4, lines 41-57; Figs. 1 and 3), where the mobile station (10) is registered with the private base station (20) for communicating within the public and private

domain of the cellular switching system to allow public and/or private communication.

When the mobile station is not registered with the private communication system, the mobile station will have communication with the public communication system in which the transmitting of no cell secession alarm would be inherent. When the mobile station is registered with the private base station the mobile station will be allowed to have private communication services of the private base station (see col. 4, lines 41-44; col. 5, line 20 'distinctive alerting').

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland and Khan to have a public and private radio mobile communication system and registering in the private wireless communication system, in order to have a privately based radio communication system with registered mobile units that can make and receive calls.

The combination of McClelland and Khan fails to teach receiving power level of base station. However, the examiner maintains that receiving power level of base station was well known in the art, as taught by Hong.

Hong further teaches of the power-related information being related to a received power level of the base station at the mobile station and being generated and transmitted from the mobile station to the base station (see col. 4, lines 38-59; Fig.6a), where the mobile provides a measurement of the received power level.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland, Khan, and Hong to receive

the power level of base station, in order to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 31**, the combination of McClelland, Khan, and Hong discloses everything claimed, as applied above (see claim 30), in addition McClelland further teaches of an apparatus as claimed in claim 30, wherein the transmitter (64a) is adapted to transmit a predetermined tone control message over a forward traffic channel (28) of the mobile communication system indicating that the mobile station (62) has seceded from the selected cell of the mobile communication system (see col. 3, lines 9-27; col. 3, lines 64 - col. 4, lines 38; Figs. 2, 4, and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell in which an alarm tone is provided.



***Response to Arguments***

4. Applicant's arguments with respect to claim 25-31 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJD,JR/wjd,jr  
05 May 2004

  
**CHARLES APPIAH**  
**PRIMARY EXAMINER**